

Listing of Claims:

1. (Currently Amended) A method for setting a delivery order attribute (DOA) as a parameter for transmission of data packets in a packet data network (GPRS-NW), said method ~~being characterized by comprising the steps of~~ comprising:

establishing mapping information for delivery order attributes corresponding to different transmission protocol types;

detecting (S22) a transmission protocol type for the transmission of data packets[.];

deciding (S23) whether said detected protocol type is a predetermined type[.]; and

setting (S24), based on said mapping information and said decision result, the delivery order attribute (DOA) ~~in case~~ if the predetermined protocol type is ~~decided to be~~ not present.

2. (Currently Amended) A ~~The~~ method ~~according to~~ of claim 1, wherein said set delivery order attribute (DOA) indicates that the order of transmitted data packets is to be maintained.

3. (Currently Amended) A ~~The~~ method ~~according to~~ of claim 1, wherein said delivery order attribute (DOA) is not set (S25) ~~in case~~ if the predetermined protocol type is ~~decided to be~~ present.

4. (Currently Amended) A ~~The~~ method ~~according to~~ of claim 3, wherein said ~~an unset~~ delivery order attribute ~~being not set~~ indicates that the order of transmitted data packets does not need to be maintained.

5. (Currently Amended) A ~~The~~ method ~~according to~~ of claim 1, wherein said predetermined protocol type is comprises a protocol type used for real-time transmission.

6. (Currently Amended) A ~~The~~ method ~~according to~~ of claim 1, wherein said transmission protocol type is derived from PDP context information or PDP type information.

7. (Currently Amended) A method for transmission of data packets in a packet data network, said method ~~comprising the steps of~~ comprising:

detecting (S31) at least a delivery order attribute (DOA) as a parameter for transmission of data packets;

~~further characterized by the steps of~~

deciding (S32)[[,]] whether said delivery order attribute parameter is set; and if so

determining (S34) a traffic class of the transmitted data packets, and processing (S35-S39, S310-S315) the transmitted data packets dependent on the determined traffic class if the delivery order parameter is set.

8. (Currently Amended) A The method according to claim 7, wherein if said delivery order attribute is set, ~~this indicates that~~ then the order of transmitted data packets is to be maintained.

9. (Currently Amended) A The method ~~according to~~ of claim 7, wherein if said delivery order attribute is not set, ~~this indicates that~~ then the order of transmitted data packets does not need to be maintained.

10. (Currently Amended) A The method according to claim 9, wherein data packets to be transmitted are forwarded (S33) to their destination immediately and irrespective of the traffic class.

11. (Currently Amended) A The method ~~according to~~ of claim 7, further ~~comprising the steps of~~ comprising:

deciding (S35) whether a determined traffic class is a predetermined traffic class[[,]]; and if so

if the traffic class is a predetermined traffic class discarding (S36) ~~those of~~ received data packets which are received after subsequently sent data packets.

12. (Currently Amended) A The method according to claim 7, further ~~comprising the steps of comprising~~:

deciding (S35) whether a determined traffic class is a predetermined traffic class~~[[,]]~~; and ~~if not so~~

if the determined traffic class is not a predetermined traffic class monitoring (S37) a sequential relationship among received data packets, detecting (S38) whether a data packet is missing in the monitored sequence, and in response to the detection of a missing data packet, buffering (S3-11) received data packets.

13. (Currently Amended) A The method ~~according to~~ of claim 12, further ~~comprising a step of comprising~~:

setting (S310) a buffering time window, during which time window received data packets are buffered.

14. (Currently Amended) A The method ~~according to~~ of claim 13, further ~~comprising a step of comprising~~:

checking (S314) to determine whether the missing data packet is received during the buffering time window.

15. (Currently Amended) A The method ~~according to~~ of claim 14, wherein if said missing data packet is not received during the buffering time window (S314, S312), said buffered data packets are forwarded (S313) irrespective of the missing data packet, which is discarded even if received after the buffering time window.

16. (Currently Amended) A The method ~~according to~~ of claim 14, wherein if said missing data packet is not received during the buffering time window (S314, S312), said buffered data packets are forwarded (S313) irrespective of the missing data packet, which is delivered out of sequence even if received after the buffering time window.

17. (Currently Amended) A ~~The~~ method ~~according to~~ of claim 14, wherein if said missing data packet is received (S314) during the buffering time window, said buffered data packets are reordered to their initial sequence order and forwarded in their initial sequence order (S315).

18. (Currently Amended) A ~~The~~ method ~~according to~~ of claim 17, wherein said reordering is based on sequence numbers of the packets contained in headers of the packets.

19. (Currently Amended) A ~~The~~ method ~~according to~~ of claim 18, wherein said headers ~~are~~ comprise GTP headers, RLC headers, LLC headers or SNDCP headers of the packets; wherein GTP = GPRS (General Packet Radio Service) Tunneling Protocol, ~~RLC headers~~[[,]] RLC = Radio Link Control, ~~LLC headers~~[[,]] LLC = Logical Link Control ~~or~~ and SNDCP = Subnetwork Dependent Convergence Protocol ~~headers of the packets~~.

20. (Currently Amended) A network element for controlling transmission of data packets in a packet data network, said network element comprising:

first detecting means ~~adapted~~ configured to detect at least a delivery order attribute (DOA) as a parameter for transmission of data packets;
~~characterized by~~

first deciding means ~~adapted~~ configured to decide whether said delivery order attribute parameter is set;

first determining means responsive to a positive decision result and ~~adapted~~ configured to determine a traffic class of the transmitted data packets[[,]]; and

processing means ~~adapted~~ configured to process the transmitted data packets dependent on the determined traffic class.

21. (Currently Amended) A The network element ~~according to~~ of claim 20, wherein said processing means further comprises:

second deciding means ~~adapted~~ configured to decide whether a determined traffic class is a predetermined traffic class[,]; and

discarding means responsive to a positive result of said second deciding means and ~~adapted~~ configured to discard ~~these~~ of received data packets which are received after subsequently sent data packets.

22. (Currently Amended) A The network element ~~according to~~ of claim 20, wherein said processing means further comprises:

second deciding means ~~adapted~~ configured to decide whether a determined traffic class is a predetermined traffic class[,]; and

monitoring means responsive to a negative result of said deciding means and ~~adapted~~ configured to monitor a sequential relationship among received data packets[,];

second detecting means ~~adapted~~ configured to detect whether a data packet is missing in the monitored sequence[;]; and

buffer means responsive to the detection of a missing data packet and ~~adapted~~ configured to buffer received data packets.

23. (Currently Amended) A The network element ~~according to~~ of claim 22, wherein said processing means further comprises:

setting means ~~adapted~~ configured to set a buffering time window, during which time window received data packets are buffered.

24. (Currently Amended) A The network element ~~according to~~ of claim 23, wherein said processing means further comprises:

checking means ~~adapted~~ configured to check whether the missing data packet is received during the buffering time window.

25. (Currently Amended) A The network element ~~according to~~ of claim 24, wherein said processing means further comprises:

forwarding means ~~adapted~~ configured to forward, if said missing data packet is not received during the buffering time window, said buffered data packets irrespective of the missing data packet, and to discard the missing data packet even if received after the buffering time window.

26. (Currently Amended) A The network element ~~according to~~ of claim 24, wherein said processing means further comprises:

reordering means ~~adapted~~ configured to reorder, if said missing data packet is received during the buffering time window, said buffered data packets to their initial sequence order, and to forward the buffered data packets in their initial sequence order.

27. (Currently Amended) A The network element ~~according to~~ of claim 20, wherein said network element is comprises a radio network controller (RNC) controlling the transmission of data packets in a the packet data network in a downlink direction.

28. (Currently Amended) A The network element ~~according to~~ of claim 20, wherein said network element is comprises a GGSN (Gateway General Packet Radio Service (GPRS) Support Node) controlling the transmission of data packets in a the packet data network in an uplink direction.

29. (Currently Amended) A The method ~~according to~~ of claim 8, further ~~comprising the steps of~~ comprising:

deciding (~~S35~~) whether a determined traffic class is a predetermined traffic class~~[[,]]; and if so~~

if the traffic class is a predetermined traffic class discarding (~~S36~~) ~~those of~~ received data packets which are received after subsequently sent data packets.

30. (Currently Amended) A The method according to claim 7, further ~~comprising~~ the steps of comprising:

deciding (~~S35~~) whether a determined traffic class is a predetermined traffic class[,]; and ~~if not so~~

if the determined traffic class is not a predetermined traffic class monitoring (~~S37~~) a sequential relationship among received data packets, detecting (~~S38~~) whether a data packet is missing in the monitored sequence, and in response to the detection of a missing data packet, buffering (~~S3-11~~) received data packets.

31. (Currently Amended) A The method ~~according to~~ of claim 30, further ~~comprising~~ the step of comprising:

setting (~~S310~~) a buffering time window, during which time window received data packets are buffered.

32. (Currently Amended) A The network element ~~according to~~ of claim 21, wherein said network element is comprises a radio network controller (RNC) controlling the transmission of data packets in a the packet data network in a downlink direction.

33. (Currently Amended) A The network element ~~according to~~ of claim 22, wherein said network element is comprises a radio network controller (RNC) controlling the transmission of data packets in a the packet data network in a downlink direction.

34. (Currently Amended) A The network element ~~according to~~ of claim 23, wherein said network element is comprises a radio network controller (RNC) controlling the transmission of data packets in a the packet data network in a downlink direction.

35. (Currently Amended) A The network element ~~according to~~ of claim 24, wherein said network element is comprises a radio network controller (RNC) controlling the transmission of data packets in a the packet data network in a downlink direction.

36. (Currently Amended) A The network element ~~according to~~ of claim 25, wherein said network element ~~is~~ comprises a radio network controller (RNC) controlling the transmission of data packets in a the packet data network in a downlink direction.

37. (Currently Amended) A The network element ~~according to~~ of claim 26, wherein said network element ~~is~~ comprises a radio network controller (RNC) controlling the transmission of data packets in a the packet data network in a downlink direction.

38. (Currently Amended) A The network element ~~according to~~ of claim 21, wherein said network element ~~is~~ comprises a GGSN (Gateway General Packet Radio Service (GPRS) Support Node) controlling the transmission of data packets in a the packet data network in an uplink direction.

39. (Currently Amended) A The network element ~~according to~~ of claim 22, wherein said network element ~~is~~ comprises a GGSN (Gateway General Packet Radio Service (GPRS) Support Node) controlling the transmission of data packets in a the packet data network in an uplink direction.

40. (Currently Amended) A The network element ~~according to~~ of claim 23, wherein said network element ~~is~~ comprises a GGSN (Gateway General Packet Radio Service (GPRS) Support Node) controlling the transmission of data packets in a the packet data network in an uplink direction.

41. (Currently Amended) A The network element ~~according to~~ of claim 24, wherein said network element ~~is~~ comprises a GGSN (Gateway General Packet Radio Service (GPRS) Support Node) controlling the transmission of data packets in a the packet data network in an uplink direction.

42. (Currently Amended) A The network element ~~according to~~ of claim 25, wherein said network element is comprises a GGSN (Gateway General Packet Radio Service (GPRS) Support Node) controlling the transmission of data packets in a the packet data network in an uplink direction.

43. (Currently Amended) A The network element ~~according to~~ of claim 26, wherein said network element is comprises a GGSN (Gateway General Packet Radio Service (GPRS) Support Node) controlling the transmission of data packets in a the packet data network in an uplink direction.